



PCT10

## RAW SEQUENCE LISTING

DATE: 08/05/2002

PATENT APPLICATION: US/10/049,822

TIME: 11:34:53

Input Set : A:\OHTA SEQUENCE LISTING (Final Copy).txt

Output Set: N:\CRF3\08052002\J049822.raw

Does Not Comply  
Corrected Diskette Needed

3 <110> APPLICANT: OHTA, Shigeo  
4 ASOH, Sadamitsu  
6 <120> TITLE OF INVENTION: A GENETICALLY ENGINEERED cDNA OF RAT bcl-x GENE AND AN  
IMPROVED

7 PROTEIN  
9 <130> FILE REFERENCE: 2002-0256A/LC/00653  
11 <140> CURRENT APPLICATION NUMBER: 10/049,822  
12 <141> CURRENT FILING DATE: 2002-04-01  
14 <150> PRIOR APPLICATION NUMBER: PCT/JP00/05502  
15 <151> PRIOR FILING DATE: 2000-08-17  
17 <150> PRIOR APPLICATION NUMBER: JP11-230642  
18 <151> PRIOR FILING DATE: 1999-08-17  
20 <160> NUMBER OF SEQ ID NOS: 17  
22 <170> SOFTWARE: PatentIn Ver. 2.1  
24 <210> SEQ ID NO: 1  
25 <211> LENGTH: 1742  
26 <212> TYPE: DNA  
27 <213> ORGANISM: Rattus norvegicus  
29 <220> FEATURE:  
30 <221> NAME/KEY: CDS  
31 <222> LOCATION: (72)..(773)  
33 <300> PUBLICATION INFORMATION:  
34 <302> TITLE: An additional form of rat Bcl-x, Bcl-xbeta, generated  
35 by an unspliced RNA, promotes apoptosis in promyeloid  
36 cells.  
37 <303> JOURNAL: J. Biol. Chem.  
38 <304> VOLUME: 271  
39 <305> ISSUE: 22  
40 <306> PAGES: 13268-13265  
41 <307> DATE: 1996-05-31  
43 <400> SEQUENCE: 1  
44 cacacagcagcag accacagtgcg tgcgcaggtg ttctggacaa tgcactggtt gageccatct 60  
45 ctattataaa a atg tct cag agc aac ccg gac ctg gtc gtt gac ttt ctc 110  
46 Met Ser Gln Ser Asn Arg Glu Leu Val Val Asp Phe Leu  
47 1 5 10  
48 tcc tac aag ctc tcc cag aaa gga tac agc tgc agt cag ttt agc gat 158  
Ser Thr Ser Thr Ser Thr Ser Thr Ser Ser Gln Phe Ser Asp

# Raw Sequence Listing Error Summary

## ERROR DETECTED

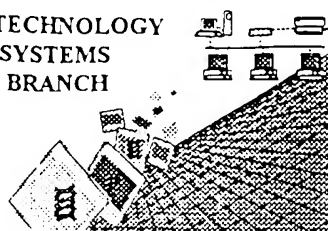
## SUGGESTED CORRECTION

SERIAL NUMBER: 151549,800

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 ☐ Wrapped Nucleics  
    Wrapped Aminos      The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2 ☐ Invalid Line Length      The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 ☐ Misaligned Amino  
    Numbering      The numbering under each 5<sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 ☐ Non-ASCII      The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 ☐ Variable Length      Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6 ☐ PatentIn 2.0  
    "bug"      A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s). Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 ☐ Skipped Sequences  
    (OLD RULES)      Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:  
    (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
    (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  
    (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
    This sequence is intentionally skipped  
  
    Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8 ☐ Skipped Sequences  
    (NEW RULES)      Sequence(s) missing. If Intentional, please insert the following lines for each skipped sequence.  
    <210> sequence id number  
    <400> sequence id number  
    000
- 9 ☐ Use of n's or Xaa's  
    (NEW RULES)      Use of n's and/or Xaa's have been detected in the Sequence Listing.  
    Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.  
    In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 10 ☒ Invalid <213>  
    Response      Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 11 ☐ Use of <220>      Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.  
    Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  
    (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12 ☐ PatentIn 2.0  
    "bug"      Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 ☐ Misuse of n      n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

BIOTECHNOLOGY  
SYSTEMS  
BRANCH



IN  
5060

**RAW SEQUENCE LISTING**  
**ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/049,822  
Source: PT/10  
Date Processed by STIC: 8/5/2002

5060

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER  
VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND  
TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:  
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7<sup>th</sup> Floor, Examiner Name,  
Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202

Or

Federal Express, United Parcel Service, or other carrier  
Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002

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DATE: 08/05/2002

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Input Set : A:\OHTA SEQUENCE LISTING (Final Copy).txt

Output Set: N:\CRF3\08052002\J049822.raw

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57 agc ccc gcg qtg aat qga gcc act ggc cac agc agc agt ttg qat gcg      302
58 Ser Pro Ala Val Asn Gly Ala Thr Gly His Ser Ser Ser Leu Asp Ala
59          65          70          75
60 cgg gaq qta atc ccc atg qca qca gtg aag caa gcg ctg aqa gaq gct      350
61 Arg Glu Val Ile Pro Met Ala Ala Val Lys Gln Ala Leu Arg Glu Ala
62          80          85          90
63 ggc gat gag ttt gaa ctg cgg tac cgg aqa qca ttc agt gat cta aca      398
64 Gly Asp Glu Phe Glu Leu Arg Tyr Arg Arg Ala Phe Ser Asp Leu Thr
65          95          100          105
66 tcc caq ctt cat ata acc cca ggg aca qca tat cag agc ttt gaa cag      446
67 Ser Gln Leu His Ile Thr Pro Gly Thr Ala Tyr Gln Ser Phe Glu Gln
68 110          115          120          125
69 gta gtg aat gaa ctg ttt cgg gat ggg qta aac tgg ggt cgc att gtg      494
70 Val Val Asn Glu Leu Phe Arg Asp Gly Val Asn Trp Gly Arg Ile Val
71          130          135          140
72 gcc ttc ttc tcc ttt ggc ggg qca ctg tgc gtg gaa agc gta gac aag      542
73 Ala Phe Phe Ser Phe Gly Gly Ala Leu Cys Val Glu Ser Val Asp Lys
74          145          150          155
75 gag atg cag gta ttg gtg agt cgg att qca agt tgg atg gcc acc tac      590
76 Glu Met Gln Val Leu Val Ser Arg Ile Ala Ser Trp Met Ala Thr Tyr
77          160          165          170
78 ctg aat gac cac cta gag cct tgg atc cag gag aac ggc ggc tgg gac      638
79 Leu Asn Asp His Leu Glu Pro Trp Ile Gln Glu Asn Gly Gly Trp Asp
80          175          180          185
81 act ttt gtg gat ctg tac ggg aac aat qca qca gcc gag agc cgg aaa      686
82 Thr Phe Val Asp Leu Tyr Gly Asn Asn Ala Ala Glu Ser Arg Lys
83 190          195          200          205
84 ggc cag gag cgt ttc aac cgc tgg ttc ctg acg ggc atg act gtg gct      734
85 Gly Gln Glu Arg Phe Asn Arg Trp Phe Leu Thr Gly Met Thr Val Ala
86          210          215          220
87 ggt gta gtt ctg ctg ggc tca ctg ttc agt cgg aag tga ccaqacactg      783
88 Gly Val Val Leu Leu Gly Ser Leu Phe Ser Arg Lys
89          225          230
90 accgtccact cactctccac ctcccaccit gcccccacca caactctctc ttcaqcccac 843
91 attgctacaa qqagaaccac tacctqcaac tcaqccct tcccctatta taqqgttggg 903
92 cctaqacqga qtcctctqca qtttgtttc tgaattctac cagctctctg tgaagqcaac 963
93 cttccccca cactctcatt tcttggct caaatctcac aaqgttttct ctcaqatcag 1023
94 ctccctggag gctggcagga qtttgaagg qtttctaga qqaqaaagag cctgctttgt 1083
95 tgggtgggac ctgattacc ctgagctct cgggaatgct tttctggcag qgaqctggag 1143
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97 agaattgata catttcccat tctgttgtt ccttgggctg gctctctctt cccatctcca 1263
98 cccccccccc cccagagcca ttgagtgaag tctttttagc ccttttgaat aactaaaaat 1323
99 qcaqctgct tgggataacq aqgcaaggac ctctcccca ccttggctt qgccaagccc 1383
100 caactctggt tctgaatgtt ctctgaggt ctctggctag agtccagccc cccccaggag 1443
101 qaqqagcaga gctgqggaaa qtcacacctg ccagagcttq aqgqctctt qgqctttagc 1503
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TIME: 11:34:53

Input Set : A:\OHTA SEQUENCE LISTING (Final Copy).txt

Output Set: N:\CRF3\08052002\J049822.raw

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109 <211> LENGTH: 233
110 <212> TYPE: PRT
111 <213> ORGANISM Rattus norvegicus
113 <400> SEQUENCE: 2
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116 Leu Ser Gln Lys Gly Tyr Ser Trp Ser Gln Phe Ser Asp Val Glu Glu
117      20          25          30
118 Asn Arg Thr Glu Ala Pro Glu Glu Thr Glu Pro Glu Arg Glu Thr Pro
119      35          40          45
120 Ser Ala Ile Asn Gly Asn Pro Ser Trp His Leu Ala Asp Ser Pro Ala
121      50          55          60
122 Val Asn Gly Ala Thr Gly His Ser Ser Ser Leu Asp Ala Arg Glu Val
123      65          70          75          80
124 Ile Pro Met Ala Ala Val Lys Gln Ala Leu Arg Glu Ala Gly Asp Glu
125      85          90          95
126 Phe Glu Leu Arg Tyr Arg Arg Ala Phe Ser Asp Leu Thr Ser Gln Leu
127      100         105         110
128 His Ile Thr Pro Gly Thr Ala Tyr Gln Ser Phe Glu Gln Val Val Asn
129      115         120         125
130 Glu Leu Phe Arg Asp Gly Val Asn Trp Gly Arg Ile Val Ala Phe Phe
131      130         135         140
132 Ser Phe Gly Gly Ala Leu Cys Val Glu Ser Val Asp Lys Glu Met Gln
133      145         150         155         160
134 Val Leu Val Ser Arg Ile Ala Ser Trp Met Ala Thr Tyr Leu Asn Asp
135      165         170         175
136 His Leu Glu Pro Trp Ile Gln Glu Asn Gly Gly Trp Asp Thr Phe Val
137      180         185         190
138 Asp Leu Tyr Gly Asn Asn Ala Ala Ala Glu Ser Arg Lys Gly Gln Glu
139      195         200         205
140 Arg Phe Asn Arg Trp Phe Leu Thr Gly Met Thr Val Ala Gly Val Val
141      210         215         220
142 Leu Leu Gly Ser Leu Phe Ser Arg Lys
143 225          230

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145 &lt;210&gt; SEQ ID NO: 3

146 &lt;211&gt; LENGTH: 233

147 &lt;212&gt; TYPE: PRT

148 &lt;213&gt; ORGANISM: (Modified protein)

150 &lt;400&gt; SEQUENCE: 3

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151 Met Ser Gln Ser Asn Arg Glu Leu Val Val Asp Phe Leu Ser Tyr Lys
152      1          5          10          15
153 Leu Ser Gln Lys Gly Phe Ser Trp Ser Asn Phe Ser Asp Val Glu Glu
154      20          25          30
155 Asn Arg Thr Glu Ala Pro Glu Glu Thr Glu Pro Glu Arg Glu Thr Pro
      35          40          45

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DATE: 08/05/2002

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TIME: 11:34:53

Input Set A:\OHTA SEQUENCE LISTING (Final Copy).txt

Output Set N:\CRF3\08052002\J049822.raw

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160 65 70 75 80
161 Ile Pro Met Ala Ala Val Lys Gln Ala Leu Arg Glu Ala Gly Asp Glu
162 85 90 95
163 Phe Glu Leu Arg Tyr Arg Arg Ala Phe Ser Asp Leu Thr Ser Gln Leu
164 100 105 110
165 His Ile Thr Pro Gly Thr Ala Tyr Gln Ser Phe Glu Gln Val Val Asn
166 115 120 125
167 Glu Leu Phe Arg Asp Gly Val Asn Trp Gly Arg Ile Val Ala Phe Phe
168 130 135 140
169 Ser Phe Gly Gly Ala Leu Cys Val Glu Ser Val Asp Lys Glu Met Gln
170 145 150 155 160
171 Val Leu Val Ser Lys Ile Ala Ser Trp Met Ala Thr Tyr Leu Asn Asp
172 165 170 175
173 His Leu Glu Pro Trp Ile Gln Glu Asn Gly Gly Trp Asp Thr Phe Val
174 180 185 190
175 Asp Leu Tyr Gly Asn Asn Ala Ala Glu Ser Arg Lys Gly Gln Glu
176 195 200 205
177 Arg Phe Asn Arg Trp Phe Leu Thr Gly Met Thr Val Ala Gly Val Val
178 210 215 220
179 Leu Leu Gly Ser Leu Phe Ser Arg Lys
180 225 230

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183 &lt;210&gt; SEQ ID NO: 4

184 &lt;211&gt; LENGTH: 26

185 &lt;212&gt; TYPE: DNA

186 &lt;213&gt; ORGANISM: Artificial sequence

188 &lt;220&gt; FEATURE:

189 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

191 &lt;220&gt; FEATURE:

W--&gt; 192 &lt;221&gt; NAME/KEY: base

193 &lt;222&gt; LOCATION: (1)

194 &lt;223&gt; LOCATION: n = a, c, t or g

196 &lt;220&gt; FEATURE:

W--&gt; 197 &lt;221&gt; NAME/KEY: base

198 &lt;222&gt; LOCATION: (2)

W--&gt; 199 &lt;222&gt; n = a, c, t or g

W--&gt; 201 &lt;220&gt; FEATURE:

W--&gt; 202 &lt;221&gt; NAME/KEY: base

203 &lt;222&gt; LOCATION: (3)

W--&gt; 204 &lt;222&gt; n = a, c, t or g

W--&gt; 206 &lt;220&gt; FEATURE:

W--&gt; 207 &lt;221&gt; NAME/KEY: base

208 &lt;222&gt; LOCATION: (4)

W--&gt; 209 &lt;222&gt; n = a, c, t or g

W--&gt; 211 &lt;220&gt; FEATURE:

W--&gt; 212 &lt;221&gt; NAME/KEY: base

213 &lt;222&gt; LOCATION: (5)

214 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

215 &lt;220&gt; FEATURE:

216 &lt;221&gt; NAME/KEY: base

217 &lt;222&gt; LOCATION: (6)

218 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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220 &lt;221&gt; NAME/KEY: base

221 &lt;222&gt; LOCATION: (7)

222 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

223 &lt;220&gt; FEATURE:

224 &lt;221&gt; NAME/KEY: base

225 &lt;222&gt; LOCATION: (8)

226 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

227 &lt;220&gt; FEATURE:

228 &lt;221&gt; NAME/KEY: base

229 &lt;222&gt; LOCATION: (9)

230 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

231 &lt;220&gt; FEATURE:

232 &lt;221&gt; NAME/KEY: base

233 &lt;222&gt; LOCATION: (10)

234 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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236 &lt;221&gt; NAME/KEY: base

237 &lt;222&gt; LOCATION: (11)

238 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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240 &lt;221&gt; NAME/KEY: base

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242 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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244 &lt;221&gt; NAME/KEY: base

245 &lt;222&gt; LOCATION: (13)

246 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

247 &lt;220&gt; FEATURE:

248 &lt;221&gt; NAME/KEY: base

249 &lt;222&gt; LOCATION: (14)

250 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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252 &lt;221&gt; NAME/KEY: base

253 &lt;222&gt; LOCATION: (15)

254 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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256 &lt;221&gt; NAME/KEY: base

257 &lt;222&gt; LOCATION: (16)

258 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

259 &lt;220&gt; FEATURE:

260 &lt;221&gt; NAME/KEY: base

261 &lt;222&gt; LOCATION: (17)

262 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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264 &lt;221&gt; NAME/KEY: base

265 &lt;222&gt; LOCATION: (18)

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270 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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274 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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276 &lt;221&gt; NAME/KEY: base

277 &lt;222&gt; LOCATION: (21)

278 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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280 &lt;221&gt; NAME/KEY: base

281 &lt;222&gt; LOCATION: (22)

282 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

283 &lt;220&gt; FEATURE:

284 &lt;221&gt; NAME/KEY: base

285 &lt;222&gt; LOCATION: (23)

286 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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288 &lt;221&gt; NAME/KEY: base

289 &lt;222&gt; LOCATION: (24)

290 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

291 &lt;220&gt; FEATURE:

292 &lt;221&gt; NAME/KEY: base

293 &lt;222&gt; LOCATION: (25)

294 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

295 &lt;220&gt; FEATURE:

296 &lt;221&gt; NAME/KEY: base

297 &lt;222&gt; LOCATION: (26)

298 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

299 &lt;220&gt; FEATURE:

300 &lt;221&gt; NAME/KEY: base

301 &lt;222&gt; LOCATION: (27)

302 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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304 &lt;221&gt; NAME/KEY: base

305 &lt;222&gt; LOCATION: (28)

306 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

307 &lt;220&gt; FEATURE:

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310 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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312 &lt;221&gt; NAME/KEY: base

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314 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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321 &lt;222&gt; LOCATION: (32)

322 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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324 &lt;221&gt; NAME/KEY: base

325 &lt;222&gt; LOCATION: (33)

326 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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328 &lt;221&gt; NAME/KEY: base

329 &lt;222&gt; LOCATION: (34)

330 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

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333 &lt;222&gt; LOCATION: (35)

334 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

335 &lt;220&gt; FEATURE:

336 &lt;221&gt; NAME/KEY: base

337 &lt;222&gt; LOCATION: (36)

338 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

339 &lt;220&gt; FEATURE:

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341 &lt;222&gt; LOCATION: (37)

342 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

343 &lt;220&gt; FEATURE:

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345 &lt;222&gt; LOCATION: (38)

346 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

347 &lt;220&gt; FEATURE:

348 &lt;221&gt; NAME/KEY: base

349 &lt;222&gt; LOCATION: (39)

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351 &lt;220&gt; FEATURE:

352 &lt;221&gt; NAME/KEY: base

353 &lt;222&gt; LOCATION: (40)

354 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

355 &lt;220&gt; FEATURE:

356 &lt;221&gt; NAME/KEY: base

357 &lt;222&gt; LOCATION: (41)

358 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

359 &lt;220&gt; FEATURE:

360 &lt;221&gt; NAME/KEY: base

361 &lt;222&gt; LOCATION: (42)

362 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

363 &lt;220&gt; FEATURE:

364 &lt;221&gt; NAME/KEY: base

365 &lt;222&gt; LOCATION: (43)

366 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

367 &lt;220&gt; FEATURE:

368 &lt;221&gt; NAME/KEY: base

369 &lt;222&gt; LOCATION: (44)

370 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

371 &lt;220&gt; FEATURE:

372 &lt;221&gt; NAME/KEY: base

373 &lt;222&gt; LOCATION: (45)

374 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

375 &lt;220&gt; FEATURE:

376 &lt;221&gt; NAME/KEY: base

377 &lt;222&gt; LOCATION: (46)

378 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

379 &lt;220&gt; FEATURE:

380 &lt;221&gt; NAME/KEY: base

381 &lt;222&gt; LOCATION: (47)

382 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

383 &lt;220&gt; FEATURE:

384 &lt;221&gt; NAME/KEY: base

385 &lt;222&gt; LOCATION: (48)

386 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

387 &lt;220&gt; FEATURE:

388 &lt;221&gt; NAME/KEY: base

389 &lt;222&gt; LOCATION: (49)

390 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

391 &lt;220&gt; FEATURE:

392 &lt;221&gt; NAME/KEY: base

393 &lt;222&gt; LOCATION: (50)

394 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

395 &lt;220&gt; FEATURE:

396 &lt;221&gt; NAME/KEY: base

397 &lt;222&gt; LOCATION: (51)

398 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

399 &lt;220&gt; FEATURE:

400 &lt;221&gt; NAME/KEY: base

401 &lt;222&gt; LOCATION: (52)

402 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

403 &lt;220&gt; FEATURE:

404 &lt;221&gt; NAME/KEY: base

405 &lt;222&gt; LOCATION: (53)

406 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

407 &lt;220&gt; FEATURE:

408 &lt;221&gt; NAME/KEY: base

409 &lt;222&gt; LOCATION: (54)

410 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

411 &lt;220&gt; FEATURE:

412 &lt;221&gt; NAME/KEY: base

413 &lt;222&gt; LOCATION: (55)

414 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

415 &lt;220&gt; FEATURE:

416 &lt;221&gt; NAME/KEY: base

417 &lt;222&gt; LOCATION: (56)

418 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

419 &lt;220&gt; FEATURE:

420 &lt;221&gt; NAME/KEY: base

421 &lt;222&gt; LOCATION: (57)

422 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

423 &lt;220&gt; FEATURE:

424 &lt;221&gt; NAME/KEY: base

425 &lt;222&gt; LOCATION: (58)

426 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

427 &lt;220&gt; FEATURE:

428 &lt;221&gt; NAME/KEY: base

429 &lt;222&gt; LOCATION: (59)

430 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

431 &lt;220&gt; FEATURE:

432 &lt;221&gt; NAME/KEY: base

433 &lt;222&gt; LOCATION: (60)

434 &lt;223&gt; OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide

435 &lt;220&gt; FEATURE:

436 &lt;221&gt; NAME/KEY: base

## RAW SEQUENCE LISTING

DATE: 08/05/2002

PATENT APPLICATION US/10/049,822

TIME: 11:34:53

Input Set : A:\OHTA SEQUENCE LISTING (Final Copy).txt

Output Set: N:\CRF3\08052002\J049822.raw

```

218 <222> LOCATION: (6)
W--> 219 <222> n = a, c, t or g
W--> 221 <400> 4
W- 222 nnnnnnacta gtggatcctg gaagag 26
225 <210> SEQ ID NO: 5
226 <211> LENGTH: 28
227 <212> TYPE: DNA
228 <213> ORGANISM: Artificial sequence
229 <220> FEATURE:
231 <223> OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide
233 <400> SEQUENCE: 5
234 ggaatctttac tcaacaatac ctgcatct 28
237 <210> SEQ ID NO: 6
238 <211> LENGTH: 27
239 <212> TYPE: DNA
240 <213> ORGANISM: Artificial sequence
242 <220> FEATURE:
243 <223> OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide
245 <400> SEQUENCE: 6
246 ggtgagtaag attgcaagtt ggatggc 27
249 <210> SEQ ID NO: 7
250 <211> LENGTH: 19
251 <212> TYPE: DNA
252 <213> ORGANISM: Artificial sequence
254 <220> FEATURE:
255 <223> OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide
257 <400> SEQUENCE: 7
258 tcttgatcc aaqctctta 19
261 <210> SEQ ID NO: 8
262 <211> LENGTH: 28
263 <212> TYPE: DNA
264 <213> ORGANISM: Artificial sequence
266 <220> FEATURE:
267 <223> OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide
269 <400> SEQUENCE: 8
270 gctaaaqta ctcaagctgt atcctttc 28
273 <210> SEQ ID NO: 9
274 <211> LENGTH: 31
275 <212> TYPE: DNA
276 <213> ORGANISM: Artificial sequence
278 <220> FEATURE:
279 <223> OTHER INFORMATION: Artificial sequence: Synthesized oligonucleotide
281 <400> SEQUENCE: 9
282 ctggaqtaac tttaagatg tcaaaagaaa c 31
284 <210> SEQ ID NO: 10

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/049,822

DATE: 08/05/2002  
TIME: 11:34:54

Input Set : A:\OHTA SEQUENCE LISTING (Final Copy).txt  
Output Set: N:\CRF3\08052002\J049822.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:4; N Pos. 1,2,3,4,5,6

Seq#:15; N Pos. 1,2,3,4

Seq#:17; N Pos. 1,2,3,4,5,6,7,8



## VERIFICATION SUMMARY

PATENT APPLICATION US/10/049,822

DATE: 08/05/2002

TIME: 11:34:54

Input Set: A:\OHTA SEQUENCE LISTING (Final Copy).txt

Output Set: N:\CRF3\08052002\J049822.raw

L:192 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:4  
L:197 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:4  
L:199 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:4  
L:202 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:4  
L:204 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:4  
L:207 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:4  
L:209 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:4  
L:212 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:4  
L:214 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:4  
L:217 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:4  
L:219 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:4  
L:221 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:4  
L:222 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0  
L:349 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:15  
L:354 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:15  
L:356 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:15  
L:359 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:15  
L:361 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:15  
L:364 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:15  
L:366 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:15  
L:369 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:15  
L:370 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0  
L:392 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:397 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:399 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17  
L:402 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:404 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17  
L:407 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:409 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17  
L:412 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:414 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17  
L:417 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:419 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17  
L:422 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:424 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17  
L:427 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:17  
L:429 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17  
L:431 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:17  
L:432 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0